

differs in the dactyl failing to fit into palm in *H. guasaye* and the 6th article with a hump defining enlarged palm, hump bearing stridulation ridges whereas in the present specimen the 6th article of gnathopod 2 is devoid of the hump with stridulation ridges and the dactyl clearly fits into the palm. The telson in *H. guasaye* with 3 setae on the mid-lateral edge of each lobe whereas in the given specimen only 2 setae are present on each lobe.

Hence it is regarded as new species. The present amphipod is named as *Hyale gopalswamyi* sp. nov. in honour and memory of the late Dr K. V. Gopalswamy, former Registrar of Andhra University.

ACKNOWLEDGEMENT

One of us (MRK) is grateful to the Council of Scientific and Industrial Research for financial assistance during the tenure of this work.

REFERENCES

BARNARD, J. L. (1970): Sub-littoral Gammaridea (Amphipoda) of the Hawaiian islands. *Smithson. Contrib. Zool.*, 34: 1-286.

SCHIELLENBERG, A. (1938): Littorale amphipoden des tropischen Pazifiks. *Kungl. Svenska Vetenska-*

pakad. Handl. Ser. 3, 16: 1-105.

THOMSON, G. M. (1879): New Zealand Crustacea, with descriptions of new species. *Trans. Proc. New Zealand Inst.*, 11: 230-240.

ON A NEW CYPRINID FISH OF THE GENUS *BARILIUS* HAMILTON (PISCES: CYPRINIDAE) FROM ARUNACHAL PRADESH, INDIA¹

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INTRODUCTION

The cyprinid fishes of the genus *Barilius* Hamilton are distributed throughout India, Pakistan, Nepal, Bangladesh, Sri Lanka, Burma, Thailand, Malaya, China, Egypt and West Africa. Day (1889) recorded 14 species and Jayaram (1981) recorded 16 species under the genus from the Indian region. While revising the subfamily Rasborinae from the Indian region, three examples of a species from Arunachal Pradesh (formerly N.E.F.A.), India referable to the genus *Barilius* were found. When compared with the known species of the genus they proved to be of a hitherto un-

described species. The species is described here and named *Barilius jayarami* after Dr. K. C. Jayaram, one of the pioneer workers on the freshwater fishes of India and Joint Director, Zoological Survey of India, who confirmed the new species.

The new species is apparently related to *Barilius dogarsinghi* Hora and *Barilius infra-fasciatus* Fowler but distinctly differs from the latter two species in morphological details.

Material. Holotype (fig. 1): 71 mm in standard length. Reg. No. Zoological Survey of India, Calcutta, FF 2150. Locality: Namdapha Wildlife Sanctuary, Tirap district, Arunachal Pradesh. Coll. Dr. S. Biswas and party. Date of collection: 17.12.1983.

Paratypes. 2 examples, 73 mm-77 mm in standard length; Reg. No. Zoological Survey

¹ Accepted October 1984.

² Zoological Survey of India, Calcutta-700 016.

NEW DESCRIPTIONS

of India, Calcutta, FF 2151. Locality, collector and date of collection same as in holotype.

DIAGNOSIS

Dorsal fin commences opposite interspace between pelvic and anal fin and extending entirely over the latter. Lateral line scales 42-43. Head length 3.70-3.93 and body depth 3.52-3.70 in standard length. Eye diameter 3.00-3.20 in head length, Height of caudal peduncle 2.00-2.40 in its length. Lateral transverse bands vary from 8 to 9.

(1.20-1.60) in postorbital part of head, equal to or slightly shorter than interorbital distance. Gape of mouth wide, extending beyond anterior margin of eye. Two pairs of barbels present, anterior or rostral barbels very short and posterior or maxillary barbels are about one fifth in eye diameter. Height of caudal peduncle 2.18 (2.00-2.40) in its length.

Scales 42-43 in lateral line, $6\frac{1}{2}$ above, $3\frac{1}{2}$ below to base of pelvic fin; 19-20 predorsal and circumpeduncular 14.

Fins: D. ii-iii, 8; A. iii, 11; P. i, 12-13; V. i, 8; C. 19.

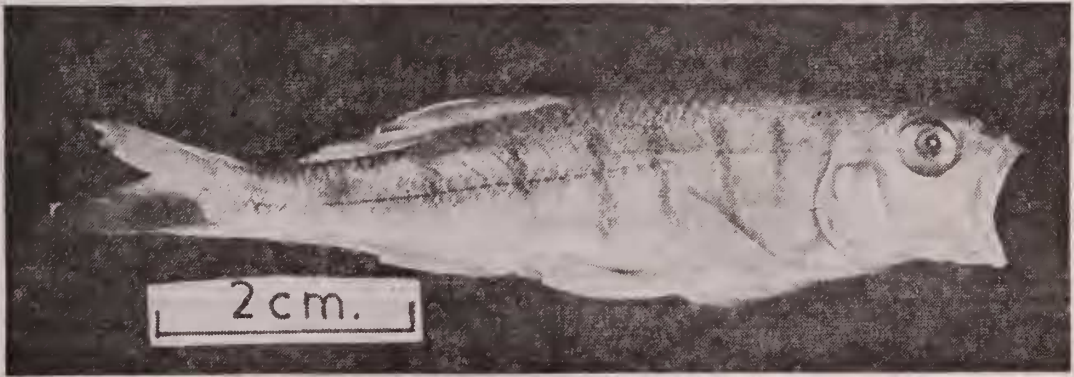


Fig. 1. Lateral view of *Barilius jayarami* sp. nov.

DESCRIPTION

Head length 3.79 (3.70-3.93), body depth 3.63 (3.52-3.70), predorsal distance 1.83 (1.81-1.85), prepelvic distance 2.30 (2.25-2.36), preanal distance 1.56 (1.53-1.59) and length of caudal fin 4.67 (4.50-4.91) in standard length. Height of head 1.19 (1.15-1.23) and width of head 1.99 (1.87-2.12) in head length. Snout length 3.71 (3.40-4.00) in head length, 1.18 (1.10-1.25) in interorbital distance, 1.54 (1.50-1.60) in postorbital part of head. Eye anterior, dorso-lateral, diameter 3.10 (3.00-3.20) in head length, 1.35

Dorsal originates opposite interspace between pelvic and anal, extending entirely over the latter; nearer to base of caudal fin than to tip of snout. Pelvic nearer to tip of snout than to base of caudal fin. Pectoral fin well extending pelvic which reaches anal fin. Height of dorsal 5.39 (4.84-5.90), height of anal (6.73-7.00), pectoral length 5.51 (5.36-5.72) and pelvic length 5.05 (4.91-5.25) in standard length. Caudal fin deeply forked with unequal pointed lobes lower one slightly longer than upper one.

Different body proportions, their range and mean have been shown in table 1.

TABLE 1

Body Proportions	Range	Mean
Standard length/Head length	3.70-3.93	3.79
Standard length/Body depth	3.52-3.70	3.63
Standard length/Predorsal distance	1.81-1.85	1.83
Standard length/Prepelvic distance	2.25-2.36	2.30
Standard length/Preanal distance	1.53-1.59	1.56
Standard length/Caudal fin length	4.50-4.91	4.67
Head length/Height of head	1.15-1.23	1.19
Head length/Width of head	1.87-2.12	1.99
Head length/Snout length	3.40-4.00	3.71
Interorbital distance/Snout length	1.10-1.25	1.18
Head length/Eye diameter	3.00-3.20	3.10
Standard length/Height of dorsal	4.84-5.90	5.39
Standard length/Height of anal	6.55-7.00	6.73
Standard length/Pectoral length	5.36-5.72	5.51
Standard length/Pelvic length	4.91-5.25	5.05
Length of caudal peduncle/ Height of caudal peduncle	2.00-2.40	2.18

TABLE 2

COMPARISON OF *Barilius jayarami* sp. nov. WITH RELATED SPECIES

Characters	<i>Barilius dogarsinghi</i> Hora	<i>Barilius infra fasciatus</i> Fowler	<i>Barilius jayarami</i> sp. nov.
Position of anal fin	entirely under the dorsal fin	partly under the dorsal fin	entirely under the dorsal fin
Diameter of eye in head length	4.00-4.75	3.40-4.00	3.00-3.20
Lateral line scales	38-39	41-43	42-43
Coloration			
(a) Lower lobe of caudal fin with a longitudinal band	absent	absent	present
(b) A deep black spot at the centre of the base caudal fin	present	absent	absent
(c) Caudal fin with 3 obscure dark bands	absent	present	absent
(d) A dark longitudinal band over the caudal peduncle and trunk of the body	absent	absent	present
(e) Vertical bars	9-10	10-12	8-9

- rostral barbels greater than eye diameter...
 *B. vagra vagra* (Hamilton)
14. Lateral line scales 39-40. Anal fin rays 15-17.
 Body depth 3.27-3.54 in standard length.
 *B. gatensis* (Valenciennes).
 Lateral line scales 43-46. Anal fin rays 13-14.
 Body depth 4.77-5.22 in standard length
 *B. barila* (Hamilton)
15. Lateral line scale 65. Vertical bands 18-19.
 Barbels rudimentary. *B. menoni* Sen
 Lateral line scales 70-75. Vertical bands 12-13.
 Barbels well developed. *B. shaera*
 (Hamilton)

ACKNOWLEDGEMENTS

I am grateful to Dr. B. K. Tikader, Director, Zoological Survey of India for laboratory facilities and to Dr. K. C. Jayaram, Joint Director, Zoological Survey of India for confirming the new taxon and for going through the manuscript. I am also thankful to Dr. A. K. Ghosh, Deputy Director and to Dr. P. K. Talwar, Superintending Zoologist for their encouragement and valuable suggestions.

REFERENCES

DAY, F. (1889): The fauna of British India, including Ceylon and Burma. Fishes 1:i-xx, 1-548. Taylor & Francis, London.

FOWLER, H. W. (1934): Zoological results of the third De Schauensee Expedition. Part I—Fishes. *Proc. Acad. nat. sci. Philad.*, 86: 335-352.

HORA, S. L. (1921): Fish and Fisheries of Manipur with some observations on those of the Naga Hills. *Rec. Indian Mus.*, 22: 165-214.

JAYARAM, K. C. (1981): The Freshwater Fishes of India, Pakistan, Bangladesh, Burma and Sri Lanka—A handbook. Govt. of India. XXII+475, pls. XIII.

A NEW SPECIES OF *OPHIORRHIZA* L. (RUBIACEAE) FROM KERALA STATE, INDIA¹

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 (With six text-figures)

Ophiorrhiza nairii sp. nov.

Ophiorrhiza nairii sp. nov.

O. roxburghiana Wight affinis sed, stipules interpetiolaribus linearibus, adbasim latioribus, bilobatis; foliis ovatolanceolatis, magnioribus, crassis, supra persparsim villosis, infra minute villosis plus dense in nervis; petiolis longioribus; inflorescentia corymbosa; floribus in utroque pedunculo helicoidis; tubo corollae parvioribus; stigmatibus 2-lobatis, distincte lanceolatis et fructuobovoidis differt.

Allied to *O. roxburghiana* Wight but differs in: interpetiolar stipules linear, broader at base, bilobed; leaves ovate-lanceolate, larger, thick, coriaceous very sparsely villous above, minutely villous below, more dense on veins; petioles longer; inflorescence corymb-like but flowers in each peduncle with distinct helicoid arrangement; corolla tube smaller; stigma dilated into 2 lobes, distinctly lanceolate and fruits obovoid.

¹ Accepted October 1984.

² Botanical Survey of India, Southern Circle, Coimbatore-641 003.

Undershrubs; stems erect, branched, terete, densely hairy; internodes 4-12 cm long. Leaves opposite decussate, simple, unequally paired;